



BUILDING COMMISSIONING

for better public buildings

CASE STUDY



Wallace Building exterior.

"The commissioning process was a success. Due to good communication between the Commissioning agent and the contractors, problems were identified prior to occupation."

- Jim Page, Designer, architect,
L'Heureux Page Werner

COMMISSIONING QUICK FACTS

Building: Wallace Building
Location: Deer Lodge, Montana
Completion date: January, 2003
Scope of project: New construction and
Renovation
Commissioning cost: \$24,000¹
First-year cost benefit: \$2,200²
Annual energy savings: \$5,500³

¹ Commissioning providers fee only.

² Cost reduction or avoidance.

³ Annual energy savings based on cost of electricity of \$0.0494/kWh and natural gas of \$0.755 /therm.

TIME SPENT ON COMMISSIONING MAKES 'DOING TIME' MORE COMFORTABLE

For the Montana State Men's Prison at Deer Lodge, Montana, a recent \$3 million remodeling/addition project included \$24,000 for commissioning. It was money well spent. The commissioning process found 46 discrepancies. It was estimated that correction of these discrepancies avoided potential damage to equipment and operations and maintenance staff time amounting to \$18,540. Some of the problems would have wasted energy, too, which is an on-going expense. The majority of the discrepancies identified by the commissioning process, however, addressed the hard to quantify benefits of improved comfort, reduced complaints, improved indoor air quality, and avoidance of liability.

The project consisted of a two-story addition of 13,000 square feet to the existing two-story Wallace Building at the prison and renovation of an additional 10,300 square feet on both floors. Design work on the project began in December 1999. The commissioning scope of work concentrated on evaluating the operation and performance of the HVAC, controls and fire alarm HVAC interlocks in the building. Although the commissioning provider was appointed late in the design stage, they were able to conduct the review of the design documents before they were finalized for bidding. The review of

BUILDING COMMISSIONING

Is a systematic and documented process of ensuring that the owner's operational needs are met, building systems perform efficiently, and building operators are properly trained.

over



Wallace Building exterior.

design documents is crucial to the success of the commissioning process in new construction.

The facility management corrected or accepted all of the 46 discrepancies found in the commissioning process. Of these items, 23 were related to mechanical, 25 plumbing, 11 controls, 7 were design items, and 8 were procedural issues. Some overlapped or were corrected in the normal course of construction.

The documented financial benefits alone paid for the cost of commissioning within the first year of building operation. The non-monetary benefits of comfort and a healthy, productive work environment were noticed immediately.

LESSONS LEARNED

- Allocate sufficient funds for Commissioning work prior to the construction phase.
- Discuss the Commissioning process with all parties involved (contractors, facility people, etc.) to avoid surprises or resistance.
- Allocate proper authority to insure recommendations by the commissioning agent are adopted.

COMMISSIONING BENEFITS

- Improved comfort, fewer complaints, and improved indoor air quality.
- Avoided change orders resulting in cost savings.
- Extended equipment life and reduced maintenance.

"The commissioning agent needs the authority to make changes and therefore accept the accountability to insure a successful project."

- Carl Nelson, Manager of Facilities

PROJECT PARTNERS

- DEPARTMENT OF CORRECTIONS
Contact: Carl Nelson
Director of Facilities Maintenance
- COMMISSIONING PROVIDER
Western Montana Engineering
Missoula, MT
Contact: Warren Worth
wme@montana.com
- U.S. DOE Rebuild America Program
Contact: Dave Waltzman
dave.waltzman@ee.doe.gov

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FOR MORE INFORMATION

- MONTANA DEPARTMENT OF ENVIRONMENTAL QUALITY
Contact: Toby Benson
406.841.5231
www.deq.state.mt.us/Energy/buildings/index.asp



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